

Summary of the U.S. Census Bureau's 2018 State-Level Population Estimate for Massachusetts

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On December 19, 2018, the U.S. Census Bureau released population and components-of-change estimates for the nation, states, and Puerto Rico for July 1, 2018. According to the new release, the Massachusetts population increased by an estimated 38,903 persons from July 1, 2017 to July 1, 2018 to a new total of 6,902,149, making it the 15th most populous state in the U.S. again this year. This 0.57% annual increase puts Massachusetts' growth at approximately 8 times that of the Northeast average of 0.07% and ranks it as the fastest growing state in the Northeast this year, in both numeric and percentage change. At the national level, Massachusetts ranked 16th for annual population change this year, and ranked 22nd in terms of annual percentage growth in the 2017 to 2018 period, up from 24th last year. Since the last Census in April of 2010, the Massachusetts population has increased by 354,359 persons cumulatively, or 5.4%, compared to a 1.4% cumulative increase for the Northeast region and a 6.0% cumulative increase for the U.S. as a whole. Table 1 below shows both the numeric and percentage growth and rankings for the United States, U.S. regions, and the Northeast states including Massachusetts for the periods April 1, 2010, July 1, 2017, and July 1, 2018.

Table 1. Annual and Cumulative Estimates of Resident Population Change for the United States, Regions, and Northeast States and Rankings: July 1, 2017 to July 1, 2018 and April 1, 2010 to July 1, 2018													
Geographic Area	Population	Population Estimate (as of July 1)		Population Ranking		Annual Change July 1, 2017 to July 1, 2018				Cumulative Change 2010-2018			
	April 1, 2010 Base	2017	2018	April 1, 2010 Base	July 1, 2018	Change 2017 to 2018	Percent Change 2017 to 2018	Rank Change 2017-2018		Cumulative Change 2010-2018	Percent Change 2010- 2018	Rank Change 2010-2018	
								Number	Percent			Number	Percent
United States	308,758,105	325,147,121	327,167,434	(X)	(X)	2,020,313	0.6%	(X)	(X)	18,409,329	6.0%	(X)	(X)
Northeast	55,318,430	56,072,676	56,111,079	4	4	38,403	0.1%	4	4	792,649	1.4%	4	4
Midwest	66,929,743	68,156,035	68,308,744	3	3	152,709	0.2%	3	3	1,379,001	2.1%	3	3
South	114,563,045	123,598,424	124,753,948	1	1	1,155,524	0.9%	1	1	10,190,903	8.9%	1	1
West	71,946,887	77,319,986	77,993,663	2	2	673,677	0.9%	2	2	6,046,776	8.4%	2	2
Connecticut	3,574,147	3,573,880	3,572,665	29	29	-1,215	0.0%	44	43	-1,482	0.0%	49	49
Maine	1,328,369	1,335,063	1,338,404	41	42	3,341	0.3%	38	35	10,035	0.8%	46	45
Massachusetts	6,547,790	6,863,246	6,902,149	14	15	38,903	0.6%	16	22	354,359	5.4%	14	23
New Hampshire	1,316,464	1,349,767	1,356,458	42	41	6,691	0.5%	36	23	39,994	3.0%	41	31
New Jersey	8,791,962	8,888,543	8,908,520	11	11	19,977	0.2%	21	36	116,558	1.3%	27	40
New York	19,378,124	19,590,719	19,542,209	3	4	-48,510	-0.2%	51	47	164,085	0.8%	21	43
Pennsylvania	12,702,873	12,790,447	12,807,060	6	5	16,613	0.1%	25	39	104,187	0.8%	31	44
Rhode Island	1,052,957	1,056,486	1,057,315	43	44	829	0.1%	41	41	4,358	0.4%	47	47
Vermont	625,744	624,525	626,299	49	50	1,774	0.3%	40	32	555	0.1%	48	48

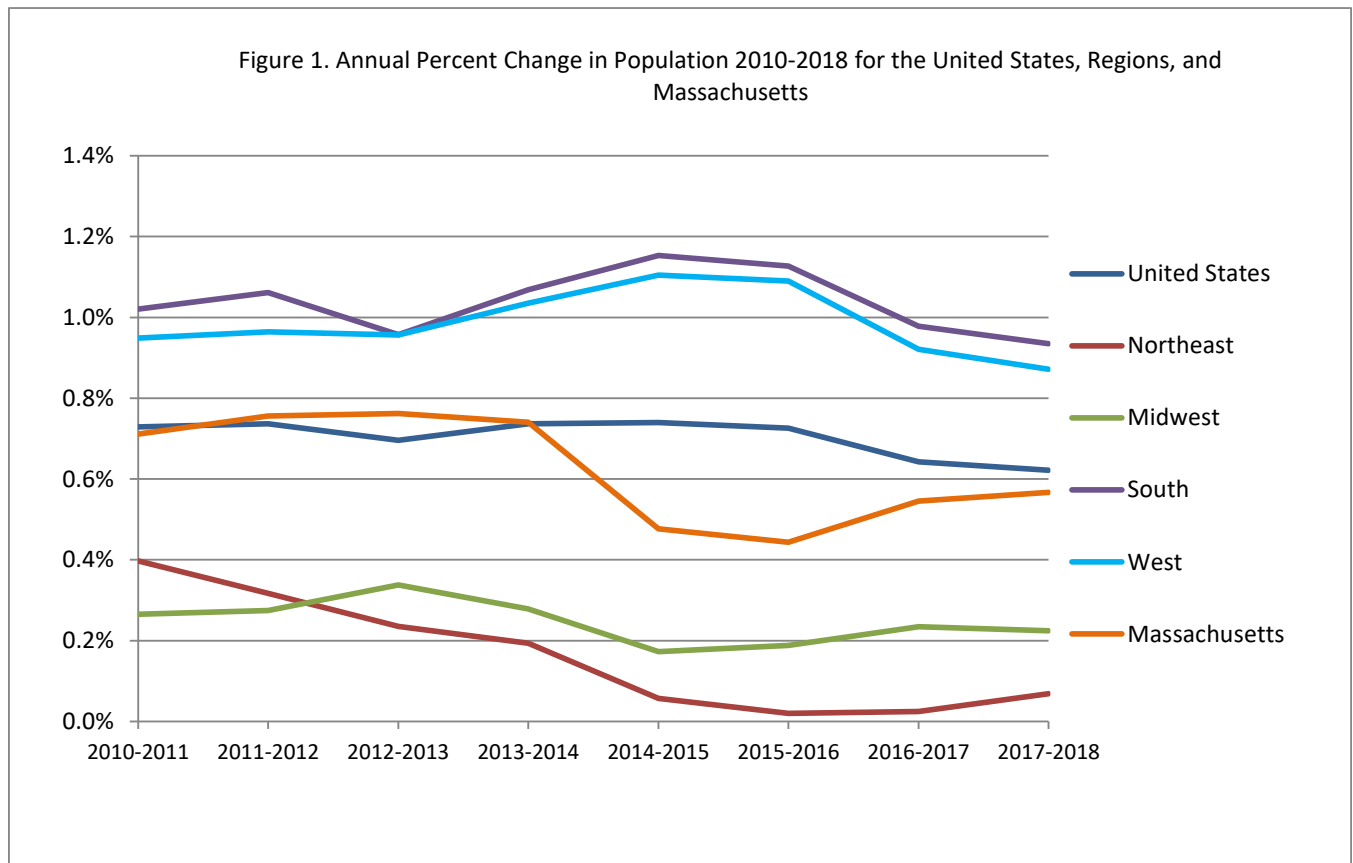
UMass Donahue Institute. Source data: Cumulative Estimates of Resident Population Change for the United States, Regions, States, and Puerto Rico and Region and State Rankings: July 1, 2017 to July 1, 2018 and April 1, 2010 to July 1, 2018 and (NST-EST2018-02 and NST-EST2018-03), U.S. Census Bureau, Population Division. Release date December 19, 2018. Rankings include District of Columbia but not the Commonwealth of Puerto Rico.



Regional Comparisons

Massachusetts' cumulative population increase of 5.4% since 2010 is somewhat behind the national 6.0% increase, though its single year percentage of 0.57% is getting closer to the U.S. average of 0.62%.

Massachusetts also continues to increase in population at a much faster rate than the Northeast and Midwest regions on average, which grew by just 0.07% and 0.22%, respectively, from 2017 to 2018. The Southern and Western regions meanwhile continue to lead the U.S. in terms of percentage growth, at 0.93% and 0.87%, respectively, over the last year (Figure 1).




The map below (Figure 2) clearly demonstrates that Massachusetts stands apart from the rest of the Northeastern and Midwestern states in terms of overall percentage growth since 2010, and even surpasses some states in the South and West. The single-year percent change map (Figure 3) for the most recent 2017-2018 period puts Massachusetts ahead of all other Northeast States.

Percent Change 2010 - 2018

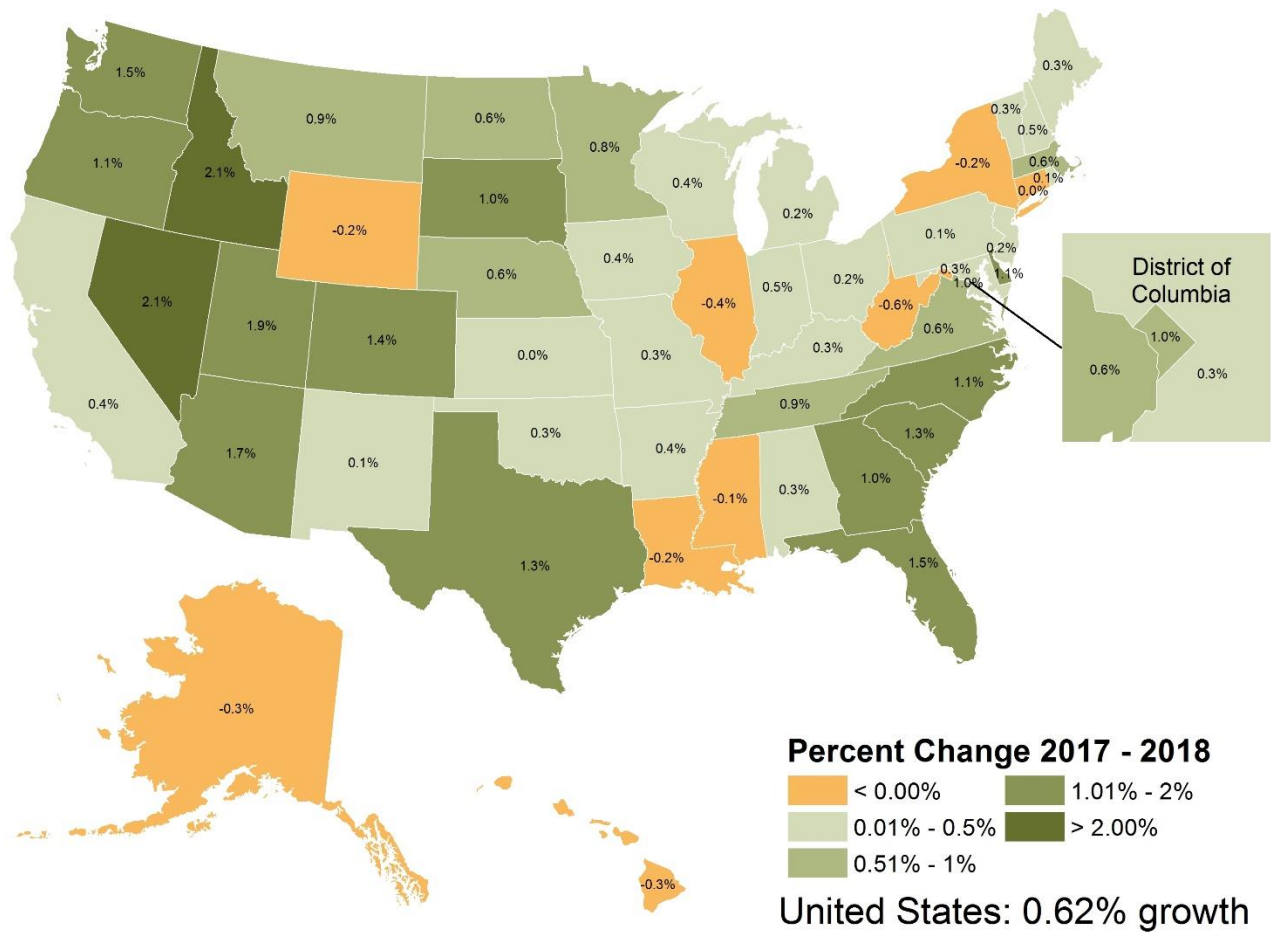
< 0.00%	5.01% - 10.00%
0.01% - 2.50%	> 10.00%
2.51% - 5.00%	

United States: 6.0% growth



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Figure 3. Annual Percent Population Change July 1, 2017 to July 1, 2018 by U.S. State

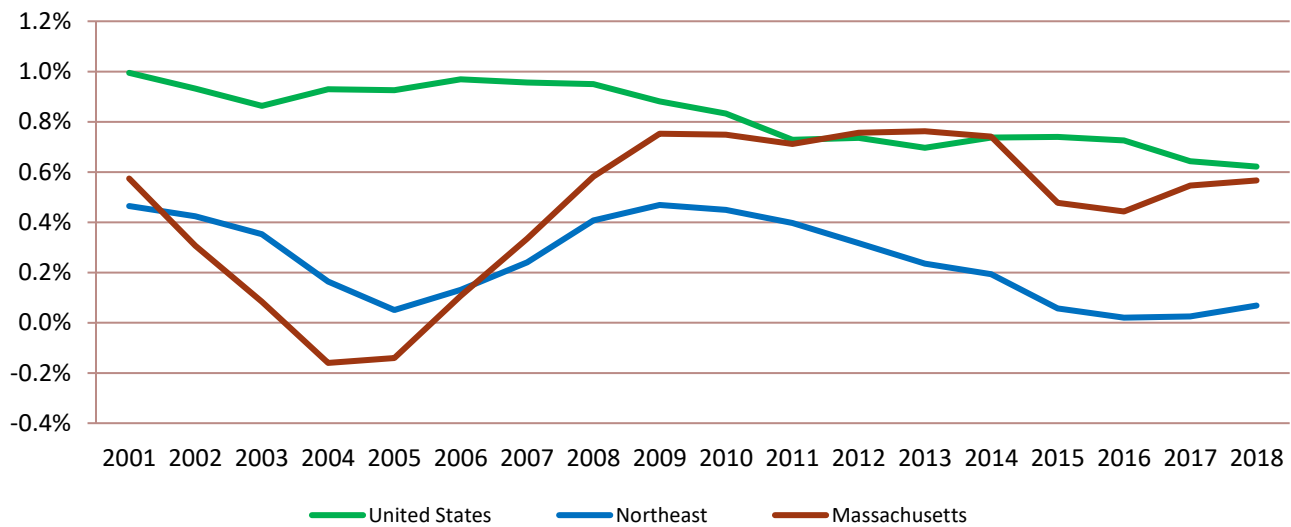


UMass Donahue Institute. Source: Cumulative Estimates of the Resident Population Change for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2018 (NST-EST2018-02). U.S. Census Bureau, Population Division. Release Date: December 19, 2018.

Long Term Trend

Massachusetts has been growing twice as fast this decade compared to last. From 2001 to 2004, Massachusetts' growth rates, along with the Northeast rates, were actually declining, and only turned around after 2005, due in part to a reversal of domestic out-migration. Starting in 2007, the Massachusetts annual growth rate overtook the Northeast rate, at 0.5% for Massachusetts compared to 0.3% for the Northeast for that year, and the state's annual percentage growth has remained above the Northeast average since that time.

Figure 4: Massachusetts Annual % Growth Over Previous Year 2001-2018



UMass Donahue Institute. Source data: ST-EST00INT-01 and NST-EST2018-01. U.S. Census Bureau, Population Division.
Release dates: September 2011 and December 2018.

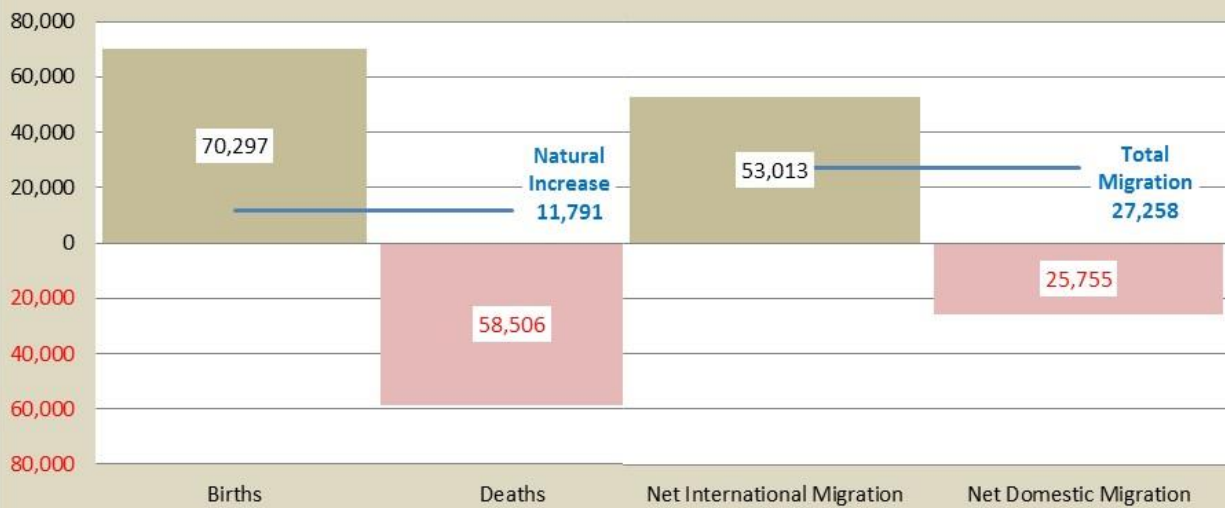
In the last decade, from Census 2000 to Census 2010, the average growth for Massachusetts was about 0.3% per year, with an average population increase of just 19,852 per year. Since the 2010 Census, Massachusetts has increased its population by an average of 42,953 persons per year, or 0.7%, per year. From 2000 to 2010, Massachusetts population increased by 198,516 – or 3.1% total. Since Census 2010, Massachusetts population has already increased by 354,359, or 5.4% cumulatively.

Components of Change

The U.S. Census Bureau produces revised population estimates each year by adding updated *components of change* to the Census 2010 base. These components include both the number of **births** and **deaths**, which together constitute the **natural increase**. They also include **net domestic migration** (migration to and from other states within the U.S.) and **net international migration** (migration to and from other countries) which sum to the **total net migration**. A fifth component, the *group quarters* population, is factored into the estimates base for the previous year, but is not broken out as a separate number in the Bureau's published release.

According to the U.S. Census estimates, from July 1, 2017 to July 1, 2018 Massachusetts experienced 70,297 births and 58,506 deaths, for a net natural increase of 11,791. At the same time, Massachusetts experienced a net outflow of 25,755 persons to other states in the U.S. and a net inflow of 53,013 persons from other countries, for total net migration of 27,258 persons. Figure 5 displays the extent to which a higher number of births offsets the number of deaths and how positive international migration offsets negative net domestic migration to sum to positive population change in Massachusetts during this period.

Figure 5: Massachusetts Estimated Components of Change, 2018

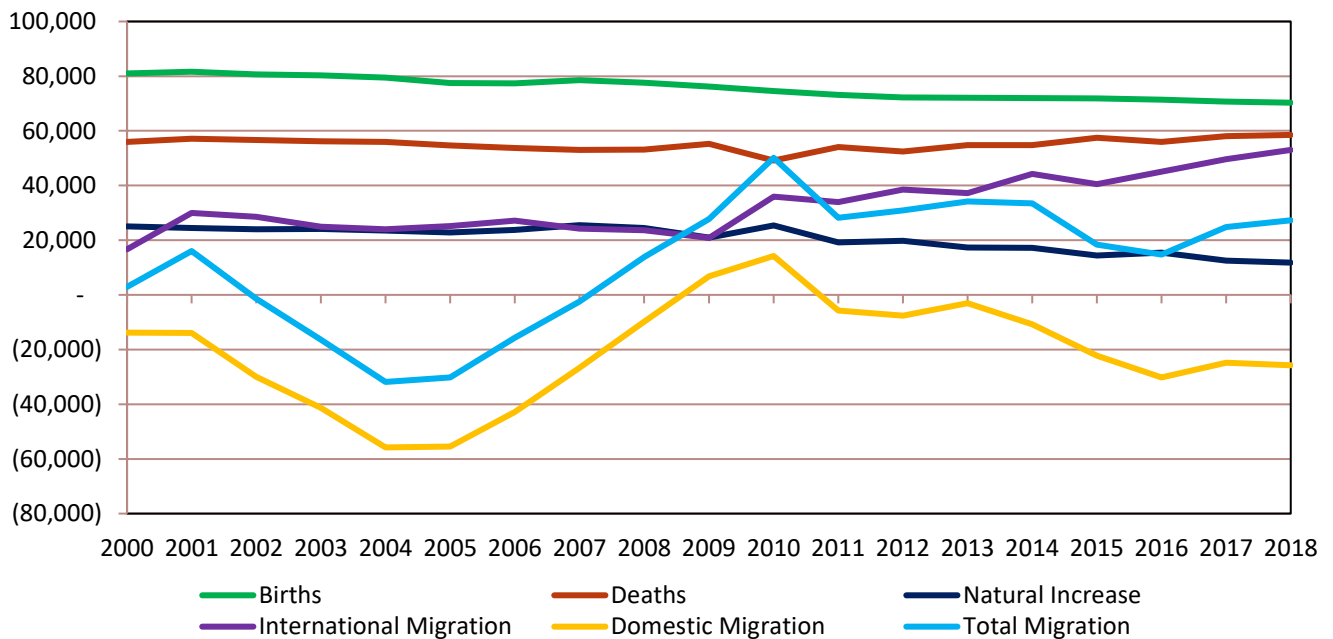


UMass Donahue Institute. Source: U.S. Census Bureau, Population Division, NST-EST2018-ALLDATA, December 20, 2018.

Components of Change: Trends 2000-2018

Massachusetts has long experienced, to varying degrees, component patterns similar to those seen above. Figure 6 below shows the trends in these components from 2000 through 2018.

Figure 6: Massachusetts Estimated Components of Change 2000-2018



UMass Donahue Institute. Source Data: ST-2000-7; CO-EST2010-ALLDATA; and NST-EST2018-ALLDATA, U.S. Census Bureau Population Division.

A greater number of births over deaths and positive international migration offsetting negative domestic migration have all contributed to an overall population increase this decade and last. Domestic out-migration from Massachusetts peaked in the middle of the last decade with an estimated net outflow of 55,077 persons leaving Massachusetts for other parts of the United States in 2005. This outflow was reduced significantly in 2007 (by 37%) and again in 2008 (by 63%), and then finally reversed to a positive in-flow in 2009, with an estimated 6,843 net persons moving into Massachusetts from other U.S. states. In the years since 2010, domestic migration reverted to a negative value again, but the outflow has been moderate compared to the peak outflow over the last decade. Births and deaths throughout the 2000-2018 period have been much less variable from year to year than migration, with births showing a slight overall decline through the years and deaths continuing at about the same level over the course of the time series.

International immigration into Massachusetts *increasingly* offsets net domestic outmigration (people moving from Massachusetts to other U.S. states.) and now offsets domestic outmigration by 2 to 1. This past year Massachusetts experienced the highest level of net international immigration since at least 2000, with an estimated net inflow of 53,013 international immigrants. Both now and historically, this positive international immigration offsets the population loss due to domestic outmigration from Massachusetts to other states. Currently twice as many people come into the state via net international immigration as leave the state via net domestic outmigration (Figure 2).

Components of Change: Regional and State Comparisons

An examination of the components-of-change data begins to answer the question of why some states or regions are racing ahead in growth while others lag behind. In 2017 to 2018, Massachusetts, was the fastest growing state in the Northeast Region. The estimated components data suggest that, while Massachusetts shows a reasonable rate of natural increase compared to other northeastern states, its total positive migration – specifically the large number of international in-migrants offsetting a relatively small number of domestic out-migrants – explains why the state leads the region in growth, as shown in Table 2 below.

Geography	Vital Events			Migration		
	Births	Deaths	Natural Increase	International Migration	Domestic Migration	Total Net Migration
United States	3,855,500	2,814,013	1,041,487	978,826	-	978,826
Northeast Region	609,336	506,909	102,427	229,700	(292,928)	(63,228)
Midwest Region	804,431	621,030	183,401	127,583	(157,048)	(29,465)
South Region	1,499,838	1,109,152	390,686	418,418	345,132	763,550
West Region	941,895	576,922	364,973	203,125	104,844	307,969
Connecticut	35,048	31,312	3,736	16,494	(21,509)	(5,015)
Maine	12,438	14,079	(1,641)	570	4,469	5,039
Massachusetts	70,297	58,506	11,791	53,013	(25,755)	27,258
New Hampshire	12,149	11,935	214	2,606	3,928	6,534
New Jersey	100,226	76,370	23,856	46,660	(50,591)	(3,931)
New York	227,099	165,728	61,371	70,375	(180,306)	(109,931)

Pennsylvania	135,905	133,562	2,343	35,377	(20,463)	14,914
Rhode Island	10,575	9,830	745	2,755	(2,639)	116
Vermont	5,599	5,587	12	1,850	(62)	1,788

UMass Donahue Institute. Source U.S. Census Bureau Population Division NST_EST2018_ALLDATA. Release Date December 19, 2018.

Regional and State Comparisons of Components-of-Change Rates

Another way to compare this data over different geographies is to first convert it to a rate –so that larger and smaller geographies can be evaluated together. Table 3 below shows the rate, per 1,000 persons, of each change component for the United States, U.S. Regions, and the Northeast States, including Massachusetts.

Table 3. Estimated Components of Change Rates for the United States, U.S. Regions, and Northeast States, 2018						
Geography	Vital Events			Migration		
	Births	Deaths	Natural Increase	International Migration	Domestic Migration	Total Net Migration
United States	11.8	8.6	3.2	3.0	0.0	3.0
Northeast Region	10.9	9.0	1.8	4.1	(5.2)	(1.1)
Midwest Region	11.8	9.1	2.7	1.9	(2.3)	(0.4)
South Region	12.1	8.9	3.1	3.4	2.8	6.1
West Region	12.1	7.4	4.7	2.6	1.4	4.0
Connecticut	9.8	8.8	1.0	4.6	(6.0)	(1.4)
Maine	9.3	10.5	(1.2)	0.4	3.3	3.8
Massachusetts	10.2	8.5	1.7	7.7	(3.7)	4.0
New Hampshire	9.0	8.8	0.2	1.9	2.9	4.8
New Jersey	11.3	8.6	2.7	5.2	(5.7)	(0.4)
New York	11.6	8.5	3.1	3.6	(9.2)	(5.6)
Pennsylvania	10.6	10.4	0.2	2.8	(1.6)	1.2
Rhode Island	10.0	9.3	0.7	2.6	(2.5)	0.1
Vermont	9.0	8.9	0.0	3.0	(0.1)	2.9

UMass Donahue Institute. Source U.S. Census Bureau Population Division NST_EST2018_ALLDATA. Release Date December 19, 2018.
Rates per 1,000 average population.

These estimated component rates indicate that Massachusetts births are occurring at a lower rate (10.2 per 1,000 average population) than in the United States as a whole (11.8) and each U.S. region on average (Table 3). Deaths in Massachusetts are also occurring at a lower rate (8.5) than other regions of the U.S. except the West (7.4), but are almost on par with the U.S. average of 8.6. Taken together, these vital events lead to a natural increase rate (1.7) that is below that of the U.S. as a whole (3.2) and all of its regions, though very close to the Northeast average of 1.8. Note that all other states in the Northeast except for New Jersey and New York show even smaller rates of natural increase, as this region of the U.S. tends to be older than the greater U.S.

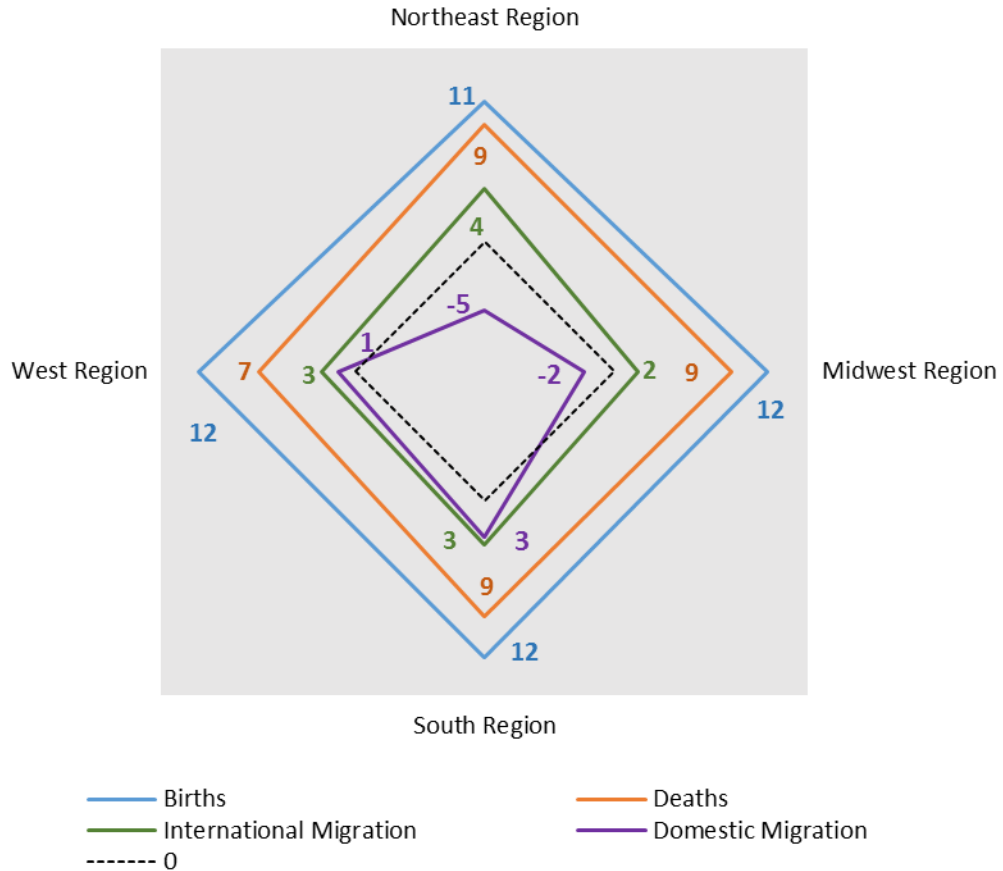
Within the migration component, we see that the Northeast and Midwest regions experience net domestic out-migration (-5.2 and -2.3 per 1,000 population, respectively) while the Southern and Western regions have positive domestic migration (2.8 and 1.4). The domestic migration rate of -3.7 in Massachusetts is less than the Northeast regional average of -5.2, but still indicates net domestic outmigration to Southern and Western states. On the other hand, the international migration rate of 7.7 for Massachusetts is more than double that of the U.S. as a whole (3.0) and exceeds all U.S. regional averages and all other Northeast states. According to the latest Census estimates, only Florida ranks higher than Massachusetts in its rate of annual net international immigration per 1,000 population. (Table 4). In terms of numbers of net immigrants, Massachusetts ranked 5th (Table 5). As a result, Massachusetts total migration, including domestic and international, nets to a positive rate of 4.0 in-migrants per 1,000 population - higher than both the Northeast and Midwest regional averages and now on par with the Western Region average (Table 3).

Table 4. States With Highest Net International Immigration Rates, 2018		
State	Rate of Net International Immigration	Ranking
Florida	8.3	1
Massachusetts	7.7	2
New Jersey	5.2	3
District of Columbia	5.1	4
Connecticut	4.6	5
South Dakota	4.2	6
Washington	4.1	7
Maryland	3.7	8
Virginia	3.7	9
Texas	3.7	10
New York	3.6	11
North Dakota	3.4	12
Alaska	3.3	13
California	3.0	14
Vermont	3.0	15
UMass Donahue Institute. Source U.S. Census Bureau Population Division NST_EST2018_ALLDATA. Release Date December 19, 2018. Rates per 1,000 average population. State rankings include District of Columbia.		

Table 5. States With the Highest Net International Immigration, 2018		
State	Net International Immigrants	Ranking
Florida	175,670	1
California	117,797	2
Texas	104,976	3
New York	70,375	4
Massachusetts	53,013	5
New Jersey	46,660	6
Pennsylvania	35,377	7
Virginia	31,641	8
Illinois	30,735	9
Washington	30,557	10
Maryland	22,575	11
Georgia	21,786	12
Michigan	21,415	13
Ohio	20,514	14
North Carolina	20,035	15
UMass Donahue Institute. Source U.S. Census Bureau Population Division NST_EST2018_ALLDATA. Release Date December 19, 2018.		

Figure 7 demonstrates the magnitude of each of the components of population change, graphing component rates by U.S. region. Births represent the component with the greatest influence on population change, and are more heavily weighted to the West and South. Deaths are the second most influential component and are most prominent in the Midwest and Northeast. International migration is heavily weighted to the Northeast, while domestic migration adds to the West and especially to the South, with losses in the Midwest and Northeast.

Figure 7. Rates of Estimated Components of Change by U.S. Region, 2018



UMass Donahue Institute. Source Data: U.S. Census Bureau, Population Division, NST_EST2018_ALLDATA. Release date December 19, 2018

Additional Information and estimates data can be found on the U.S. Census Bureau's website at <https://www.census.gov/programs-surveys/popest.html>

Additional UMass Donahue Institute Massachusetts summaries of U.S. Census Bureau releases can be accessed at <http://www.donahue.umassp.edu/business-groups/economic-public-policy-research/massachusetts-population-estimates-program/population-estimates-by-massachusetts-geography>

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